

Navigation Safety Advisory Council (NAVSAC)

Resolution 12-08

(Introduced as Task Statements #08-07 and #12-03)

Unmanned Vehicles / Vessels

(Resolution discussions to continue at the April 2013 meeting)

Task Title: Unmanned Vehicles

NAVSAC recommends to the Coast Guard:

I. Unmanned Underwater Vehicles:

- A. Promulgate a requirement that all Unmanned Underwater Vehicles must, if practicable, be equipped with AIS [Automatic Identification System]
- B. Amend Navigation Rule 23, both Inland and COLREGs, to add a new paragraph (e) to read:

(e) An inconspicuous, partly submerged vessel or object while unmanned and operating autonomously shall exhibit the lights specified in Rule 24 (g).

- C. Amend Navigation Rule 24 (g), both Inland and COLREGs, to require that all inconspicuous, partly submerged vessels or objects, or combination of such vessels or objects, exhibit the specified lights at night and by day.

II. Unmanned Surface Vessels:

- A. Promulgate a requirement that all Unmanned Surface Vessels must, if practicable, be equipped with AIS, **To match current AIS carriage requirements.**
- B. Amend Rule 3(g), both inland and COLREGs, to add a new subparagraph (vii) to read:

(vii) a self propelled vessel while unmanned and operating autonomously.

- C. Amend Rule 5, both Inland and COLREGs to read:

Every manned vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and risk of collision.

- D. Amend Rule 27, both Inland and COLREGs, to add a new paragraph (f), amend existing paragraph (g), and renumber existing paragraphs (f), (g), and (h), to read:

(f) Whenever the size of a vessel while unmanned and operating autonomously makes it impracticable to exhibit all lights and shapes prescribed in paragraph (d) of this Rule, the following shall instead be exhibited:

(i) Three all-round lights in a vertical line where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be white;

(ii) A rigid replica of the international Code flag “D” not less than 1 meter in height. Measures shall be taken to insure its all-round visibility.

(Note: International Code Flag “D” means: “I am maneuvering with difficulty; keep clear”)

(g) ~~(f)~~ [minesweeping – renumbered but no other change]

(h) ~~(g)~~ Vessels of less than 12 meters in length, except those engaged in diving operations and those unmanned and operating autonomously, shall not be required to exhibit the lights and shapes prescribed in this Rule.

(i) ~~(h)~~ [not distress signals – renumbered but not otherwise changed]

E. NAVSAC recommends that the USCG consider whether additional rules/regulations promulgation or amendment may be necessary because of technological advances in these vehicles/vessels.

III. Remotely Operated Vessels/Remotely Manned Vessels

Promulgate an interpretive rule under 33 C.F.R. Parts 82 and 90 to provide that a vessel being operated remotely is considered to be manned and must comply with the applicable Navigation Rules and annexes.

Best Practices for Operations

NAVSAC is concerned that the above resolution allows other vessels to be aware of the risk of collision with a UV, but does nothing to assure that the UV will avoid collision itself, and suggests that the industry develop some standard practices with the goal of avoiding conflicts with other operators and waterway users.

- Prior to operation of a UV, the operator should study the waterway to obtain local knowledge of other users of the waterway, and have a plan to avoid collisions. Particular attention should be paid to small craft and human powered craft that would be the most vulnerable.
- Notify the local Coast Guard of the planned operation and provide general information about the craft to be operated and other basic information to be passed to other waterway users
- Coast Guard should consider notifying the community of the operation of UV via Notice to Mariners, etc.